

A REVIEW OF THE GENUS *CROPHIUS* STÅL, WITH
 DESCRIPTIONS OF THREE NEW SPECIES
 (HEMIPTERA—HETEROPTERA:
 LYGÆIDÆ)

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Only three species of *Crophius* were recognized previous to the time E. P. Van Duzee published his monograph of the genus (Bull. Buffalo Soc. Nat. Sci. IX, 1909 (1910), pp. 389–398). That author added four new species from the western part of the United States and correctly assigned to the genus *Mayana costata* and *M. dirupta* Distant and *Oxycarenus scabrosus* Uhler. Since it is now possible to recognize both of Distant's species from Guatemala and since three new forms have been discovered it seems advisable to review the genus. Aside from their arrangement in a revised key, the old species, which were clearly diagnosed by Van Duzee, need no further description. In order that they may be more readily recognizable, I have added a brief characterization of Distant's two species referred to above, based on specimens contained in the collection of the U. S. National Museum. (*Aneuropharus*) *Crophius leucocnemis* Berg, 1879, is omitted from the key, as it is unknown to me.

Nearly all the species before me are represented by fairly long series, extensive enough at least to show that coloration is fairly uniform and characteristic in each species. It will be noted that both in the key and in the descriptions much reliance is placed upon this factor for distinguishing certain forms which are so closely related that it is difficult otherwise to differentiate them.

KEY TO SPECIES OF *CROPHIUS*

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| 1. Pronotum anteriorly without a complete or conspicuous, transverse, white or light colored band | 2 |
| Pronotum anteriorly with a complete, conspicuous, transverse, white or light colored band | 10 |
| 2. Veins of membrane, at least in part, irregular, either branched or reticulated | 3 |

- Veins of membrane entirely simple and unbranched6
3. Head and pronotum with numerous erect grayish hairs in place of glandular hairs; veins of membrane reticulate4
- Head and pronotum nearly glabrous or with short glandular hairs; veins of membrane branched or irregular5
4. Costal margin of corium impunctate and immaculate; corium closely and coarsely punctate between the fuscous veins *diruptus* (Distant)
- Costal margin of corium with an irregular row of fuscous punctures; corium sparsely punctate between the concolorous veins.
- costatus* (Distant)
5. Veins of membrane piceous, irregularly ramose and broken. Costal margin very slightly expanded, gently, convexly rounded from base to apex.
- ramosus* n. sp.
- Veins of membrane slightly fuscous, branched apically. Costal margin distinctly expanded and nearly straight from base to apex.
- impressus* Van Duzee
6. Costal margin of corium impunctate and immaculate. Membrane with a large fuscous discal area, devoid of small spots between the veins7
- Costal margin of corium spotted with fuscous. Membrane with small fuscous spots between the veins9
7. Head, pronotum, scutellum, clavus, and inner apical part of corium black. Membrane with a distinct white spot at inner basal part.
- schwarzi* Van Duzee
- Head, pronotum, and scutellum piceous to dark ferruginous. Membrane without a white basal spot8
8. Corium whitish, entirely unicolorous. Membrane fuscous, broad apical margin white with a row of fuscous spots *heidemanni* Van Duzee
- Corium cinereous to testaceous, fusco-punctate, veins frequently infuscated. Wide margin of membrane hyaline, immaculate.
- disconotus* (Say)
9. Membrane short, less than half as long as corium, hemielytra strongly convex; costal margin strongly convex from base to apex. Commissure nearly twice as long as scutellum *convexus* n. sp.
- Membrane about as long as corium, hemielytra only moderately convex; costal margin slightly convex from base to apex. Commissure about as long as scutellum *scabrosus* (Uhler)
10. Pronotum as long as wide. Veins of membrane, at least towards apex, branched. Head ferruginous *angustatus* Van Duzee
- Pronotum distinctly wider than long. Veins of membrane simple, unbranched. Head black or piceous11
11. Entire corium unicolorous, white, disk sparsely and faintly punctate; veins scarcely elevated. Membrane hyaline with uncolored veins *albidus* n. sp.
- Corium sordid white to gray, disk distinctly punctate with fuscous; veins distinctly elevated, infuscated. Membrane hyaline with slightly infuscated veins *bohemani* (Stål)

***Crophius ramosus* new species**

The following parts are dull black: Head, basal segment of antenna, anterior lobe of pronotum except mesally at anterior margin, where it is obscurely pale, scutellum, outer apical angle of corium, and ventral surface except bucculæ, margins of acetabula, and posterior margins of metapleura, which are white. Posterior lobe of pronotum sordid cinereous or lightly infuscated, with an indistinct median pale line. Corium cinereous, punctate with fuscous and clouded with fuscous especially along posterior margin and also frequently along the veins. Membrane sordid white, opaque, with veins and irregular intervening maculæ heavily infuscated. Apical three segments of antennæ, rostrum, femora, tibiæ at bases, and apices and terminal segments of tarsi dark castaneous. Dorsal parts, particularly the head, anterior lobe of pronotum, and the scutellum clothed with short glandular hairs, thus appearing sabulose.

Head about as wide as long, the short glandular hairs proclinate. Antenna with the basal segment somewhat incrassate and slightly exceeding the tylus, terminal segment but slightly longer than second. Pronotum about one-fourth wider than long, the impression between the two lobes shallow, anterior submargin and posterior lobe, except on the middle line, coarsely punctate with fuscous. Scutellum strongly, transversely depressed at base, glabrous medially. Corium with costal margin slightly expanded, with a single irregular row of small fuscous punctures; the extreme edge nearly straight in the male, gently rounded from base to apex in the female; surface coarsely punctate between the veins, punctures usually more confluent along the veins, which are distinctly elevated; posterior margin before the membrane fringed with short glandular hairs. Membrane with irregular veins which are often incomplete and broken, interspersed with small fuscous spots. Length 2.50–3.00 mm.

Type, male: Snowville, Utah, June 24, 1932, on *Atriplex* (G. F. Knowlton). Paratypes, males: Hollister, Idaho, June 5, 1931, on *Norta altissima*, and Sept. 26, 1932; Hubbs Butte, Idaho, June 8 and 15, 1931; 2 Burley, Idaho, June 16, 1931; Hansen, Idaho, June 23, 1931. Females: Jerome, Idaho, May 29, 1931; Hubbs Butte, Idaho, June 8 and 17, 1931; Burley, Idaho, June 9 and 16 and July 24, 1931; Hansen, Idaho, June 9 and 16, 1931; Hollister, Idaho, June 13, 1931, on *Norta altissima*. U. S. National Museum Cat. No. 52163.

Most of the Idaho specimens were taken in wind-vane traps by David E. Fox.

Crophius ramosus is most closely related to *C. scabrosus* Uhler but is readily distinguished from that species by the sebaceous character of the pubescence and by the strikingly different venation of the membrane. One male specimen from Burley, Idaho,

differs from the typical form in having the tylus and basal two segments of the antenna ferruginous.

***Crophius albidus* new species**

Nearly glabrous, somewhat shining. Head black. Pronotum with the anterior lobe behind the broad, white, anterior margin, the posterior lobe broadly on either side of the middle, and the scutellum fuscocastaneous. Antenna with the first three segments and also the rostrum ferruginous, terminal segment of the former lightly infuscated. Wide anterior margin and a subtriangular, mesal spot on posterior part of the pronotum and the immaculate corium white. Membrane hyaline, with veins either uncolored or very faintly infuscated. Ventral surface fuscocastaneous, with the following parts white: Anterior margin of the prosternum, margins of the acetabula, and posterior margins of the metapleura. Femora and bases of tibiae castaneous, the latter elsewhere white.

Head as long as wide, closely punctate. Antenna with the basal segment slightly incrassate, extending by a third of its length beyond apex of head, second and fourth segments nearly equal. Pronotum one-third wider than long, transverse impression between the lobes shallow, disk of anterior lobe impunctate, anterior submargin and posterior lobe closely and coarsely punctate. Scutellum a little wider than long, finely, sparsely punctate either side of the middle. Corium and clavus ivory white, immaculate, with concolorous, shallow punctures; more closely punctate on the clavus; veins of corium inconspicuous; costal margin distinctly expanded and slightly reflexed, the extreme edge straight anteriorly. Membrane hyaline, with simple, inconspicuous veins. Length 3.00-3.50 mm.

Type, male: Ephraim, Utah, June 15, 1904. Paratypes, males: 3, Mt. Pleasant, Utah, June 11, 1903. Females: With the same data as male paratypes. U. S. National Museum Cat. No. 52164.

Crophius albidus is most closely related to *C. bohemani* (Stål) and *C. disconotus* (Say), from both of which it differs by its immaculate and unicolorous corium as well as by the very slightly infuscated or concolorous veins of the membrane.

***Crophius convexus* new species**

Dull, sparsely clothed with short glandular hairs, more numerous on the head and pronotum. Strongly convex, especially across the hemielytra. Sordid gray. The following parts black to fuscocastaneous: Sides of head, basal and terminal segments of antenna, base of scutellum, and ventral surface, with the exception of posterior margins of metapleura, which are white, and margins of the acetabula, which are sordid testaceous; broad central disk of head and second and third segments of antenna ferruginous; anterior lobe of pronotum across the cicatrices castaneous, surface before and behind these as well as

the scutellum posteriorly sordid testaceous, punctate with fuscous; a pale, testaceous, longitudinal, median line of the pronotum is interrupted by the cicatrices; clavus and corium, except for the paler basal fourth of each, profusely punctate with fuscous, with the veins often infuscated; the expanded costal margin with an irregular row of distinct fuscous punctures; membrane semihyaline with the veins and small spots, fuscous; legs with the femora, except at apices and the tibiæ narrowly at bases and apices, castaneous, the latter elsewhere white.

Head a little wider than long, coarsely and roughly punctate; clothed with short glandular hairs, more numerous about the eyes and along the preocular margins. Antenna with the incrassate basal segment extended by a third of its length beyond the tylus. Pronotum about one-third wider than long, region of the cicatrices distinctly elevated and sparsely punctate, elsewhere rather closely and coarsely punctate except along a narrow pale median calloused line; posterior lobe but little wider than the anterior lobe, the shallow impression between the lobes usually more distinct at the side margins. Scutellum about one-third wider than long, sparsely, coarsely punctate. Hemelytra strongly convex, lateral margins convexly rounded throughout; inner margins behind scutellum straight and in contact to base of membrane, the commissure distinctly longer than the scutellum, one membrane only slightly overlapping the other; clavus not declivous but level with the corium, coarsely irregularly punctate; corium with two well marked veins; surface coarsely and closely punctate; costal margin distinctly expanded and irregularly punctate with fuscous. Membrane short, less than half as long as corium, wrinkled; veins distinctly elevated, unbranched; numerous small dots between the veins. Length 2.50-3.00 mm.

Type, male: Peru, on *Cereus*, intercepted at the Inspection House, Bureau of Entomology and Plant Quarantine, Washington, D. C., Aug. 4, 1936. Paratypes: 5 males and 8 females, 6 of the latter with the same data as the type; 1 with the same data as the type but intercepted June 4, 1936, and 1 labeled Callas, Peru, on *Cereus*, intercepted June 3, 1936. U. S. National Museum Cat. No. 52165.

Crophius convexus is most closely related to *C. scabrosus* (Uhler) and *C. ramosus*, n. sp., having short glandular hairs, particularly on the head, but differs markedly in being more ovate and more convex dorsally and in having a much shorter membrane. The shape of the pronotum and the character of the hemelytra as well as the aborted wings indicate very clearly that all of the specimens at hand are brachypterous. So far as known and recorded this appears to be the only case of brachyptery occurring in the genus *Crophius*.

Crophius diruptus (Distant)

Mayana dirupta Distant, Biol. Cent.-Amer., Rynch. II, 1893, 388.

This species agrees with *costatus* in the pilosity of the head and pronotum and in the reticulate-veined membrane but differs from that species in being somewhat shining and in having a much more closely and coarsely punctate clavus and corium, with slightly expanded costal margin impunctate.

A single male specimen labeled *Mayana dirupta* from the Biologia Centrali-Americana material, from the type locality, is in the collection of the U. S. National Museum.

Crophius costatus (Distant)

Mayana costata Distant, Biol. Centr.-Amer., Rynch. II, 1893, 388, Tab. XXXIV, fig. 13.

Closely related to *Crophius scabrosus* Uhler, which it resembles in appearance, but differs from that species in the following important respects: Head and pronotum distinct pilose, not provided with short, glandular hairs, the corium more sparsely punctate with fuscous and the veins of the unspotted membrane distinctly reticulated. This latter characteristic is plainly indicated in Distant's figure of a specimen from Guatemala, but is not mentioned in the description. The above characterization is based on two specimens, ♂ and ♀, from Mexico determined by me in the collection of the U. S. National Museum. These were intercepted at Brownsville, Texas, October, 1936, on chrysanthemums. If I am correct in my identification of this species there is one discrepancy which should be noted. Although the figure shows the costal margin distinctly punctate or spotted with fuscous, the description states that this margin is impunctate. The two specimens before me have the costal margin agreeing with the figure.

LIST OF THE SPECIES OF CROPHIUS

albidus n. sp.—Utah.

angustatus Van Duzee, Bull. Buff. Soc. Nat. Sci. IX, 1909 (1910), 391, 395, fig.—Calif., Utah.

bohemani (Stål), Freg. Eugen. Resa, Ins., Hem., 1859, 251.—Calif., Oreg., Wash., Vancouver Is., Idaho, Utah.

convexus n. sp.—Peru.

costalis (Distant), Biol. Centr.-Amer., Rynch. II, 1893, 388, Tab. XXXIV, fig. 13.—Guatemala, Mexico.

diruptus (Distant), Biol. Centr.-Amer., Rynch. II, 1893, 388.—Guatemala.

disconotus (Say), Heterop. N. Harm. Ind. 1832, 14.—Canada and eastern part of U. S.

heidemanni Van Duzee, Bull. Buff. Soc. Nat. Sci. IX, 1909 (1910), 391, 393, fig.—Ariz.

impressus Van Duzee, Bull. Buff. Soc. Nat. Sci. IX, 1909 (1910), 391, 396, fig.—Calif.

leucocnemis (Berg), Hem. Argent. 1879, 285.—Argentina.

ramosus n. sp.—Idaho, Utah.

scabrosus (Uhler), Proc. U. S. Nat. Mus. XXVII, 1904, 353.—Ariz., N. Mex., Utah, Nev., Colo., Idaho, western Nebr.

schwarzi Van Duzee, Bull. Buff. Soc. Nat. Sci. IX, 1909 (1910), 391, 392, fig.—Ariz.